REMARKS

Summary of the Office Action

Claims 1-8, 11-16, 18, 19, 21 and 22 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,230,591 to Katbi et al. ("Katbi").

Claims 9 and 10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Katbi, in view of U.S. Patent No. 6,234,726 to Okada et al. ("Okada").

Claim 17 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Katbi in view of U.S. Patent No. 5,032,049 to Hessman et al. ("Hessman").

Claims 19 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Katbi.

The drawings are objected to.

Summary of the Response to the Office Action

Applicants have amended claim 1.

Applicants submit concurrently herewith a Submission of Replacement Sheets of Drawings.

Claims 1-22 are pending.

Matters of Form

The drawings are objected to because the feature of the bore passing through the body of the insert from one lateral surface to another, as recited in claim 20, must be shown. Applicants submit concurrently herewith a Submission of Replacement Sheets of Drawings to amend Fig.

25 and Fig. 26 to show a proportioned width of the bore 21. Withdrawal of the objection to the drawings is requested.

All Claims Define Allowable Subject Matter

Claims 1-8, 11-16, 18, 19, 21 and 22 are rejected under 35 U.S.C. § 102(b) as being anticipated by Katbi. Claims 19 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Katbi. Applicants respectfully traverse the rejections under 35 U.S.C. § 102(b) and 35 U.S.C. § 103(a). Applicants have amended claim 1 to provide a different recitation relating to Applicants' invention. Claim 1 recites a cutting insert, including top and bottom surfaces interconnected by a peripheral surface. At least one of the top and bottom surfaces constitutes a cutting surface. A cutting edge is disposed between the cutting surface and the peripheral surface. The cutting surface includes a plateau surface and a rake surface. The rake surface surrounds the plateau surface and is situated between the plateau surface and the cutting edge. A step is disposed between the plateau surface and the rake surface. The step includes lateral step portions and corner step portions. The step is of varying height, wherein a maximum height is disposed at the corner step portions such that the height of the corner step portions is substantially greater than the height of the lateral step portions.

Support for claim 1 is provided at, for example, paragraphs 0009 and 0034, and Fig. 12, of Applicants' specification. Because the step is of varying height, wherein a maximum height is disposed at the corner step portions such that the height of the corner step portions is substantially greater than the height of the lateral step portions, good protection against impacting of chips on the top surface of the cutting insert is provided, thus reducing smear-on.

At col. 2, ll. 45-65, Katbi describes that the cutting edge is in the shape of a descending arc 40 which is defined as an arc measured from corner to each adjacent corner of the insert. Extending rearwardly from the cutting edge is a variable width land surface 42 which extends rearwardly from the cutting edge. The variable width cutting land surface 42 is of narrower width at the corners 20 of the insert than along the flanks of the insert body. The variable width land surface has a variable descending land angle 46 which preferably causes the variable width land surface to be disposed at a positive rake angle. The variable descending land angle 46 is 14° at each corner of the insert and merges to a 12° along the flanks of the insert. The Office Action asserts that the above-described variable width cutting land surface 42 having a narrower width at the corners 20 than along the flanks, and the variable descending land angle 46 being 14° at the corner and 12° along the flanks, results in the step 48 having a maximum height at the corner and a minimum height at the flank. Applicants respectfully submit that any such variation of the height of step 48 is negligible, and in any event the height of step 48 at the corners is certainly not substantially greater than the height of step 48 at the flanks. Moreover, Katbi fails to even recognize the problem that Applicants' invention solves (*i.e.* smear-on). Thus, Applicants respectfully submit that Katbi does not teach or suggest at least the features of a step that is of varying height, wherein a maximum height is disposed at the corner step portions such that the height of the corner step portions is substantially greater than the height of the lateral step portions, as recited in claim 1.

Moreover, Applicants respectfully submit that Katbi does not disclose a step. Katbi discloses a descending land angle 46 and a second descending land angle 48. As illustrated in

Fig. 4 of Katbi, descending land angle 46 and descending land angle 48 are ramps, rather than steps.

Furthermore, a central surface of Katbi is not a lowered plateau surface. To the contrary, the surface is raised. With reference to the enclosed magnified and annotated copy of Fig. 4 of Katbi, the line shows that the central surface is well above the cutting edge and not below it. Consequently, Katbi may not prevent chips from running against surface 54, 52 and 56.

Even further, Applicants respectfully disagree with the Examiner's interpretation of the term "rake angle," and consequently assert that the sketches included at page 10 of the Office Action are incorrect. As understood by one of ordinary skill in the art, the rake angle is by definition the angle between a line in the radial direction and the rake surface. The enclosed magnified and annotated copy of Fig. 4 of Katbi includes the rake angle. In view of this, Applicants submit that the arguments in the Office Action collapse since land 46 is shallower in the middle and steeper on the edges, in contrast to the assertions of the Office Action.

Also, Applicants disagree with the Office Action's position that surface 50 is a completely plain and even surface. Referring to Fig. 1 of Katbi, land 48 is a strip of a constant width. It has the same width all over its length, no matter whether one looks at the corners or at the middle between the corners. Obviously, surface 50 is curved the same way as are cutting edges 30, 32 and so forth.

Applicants respectfully submit that claim 1 is patentably for the above-described reasons as well. Claims 2-8, 11-16, 18, 19, 21 and 22 depend from claim 1, and recite the same combination of allowable features recited in claim 1, as well as additional features that define over the prior art. Accordingly, it is requested that the rejection under 35 U.S.C. § 102(b), of

claims 2-8, 11-16, 18, 19, 21 and 22, and the rejection under 35 U.S.C. § 103(a) of claim 19, be withdrawn.

Claims 9 and 10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Katbi, in view of Okada. Claim 17 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Katbi in view of Hessman. Applicants respectfully traverse the rejections under 35 U.S.C. § 103(a). Claims 9, 10 and 17 depend from claim 1, and recite the same combination of allowable features recited in claim 1, as well as additional features that define over the prior art. Applicants respectfully submit that Okada and Hessman fail to overcome the above-described deficiencies of Katbi. Accordingly, it is requested that the rejections under 35 U.S.C. § 103(a), of claims 9, 10 and 17, be withdrawn. Applicants submit that all pending claims are in condition for allowance.

CONCLUSION

In view of the foregoing, Applicants submit that the pending claims are in condition for allowance, and respectfully requests reconsideration and timely allowance of the pending claims. Should the Examiner feel that there are any issues outstanding after consideration of this response, the Examiner is invited to contact Applicants' undersigned representative to expedite prosecution. A favorable action is awaited.

EXCEPT for issue fees payable under 37 C.F.R. § 1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application including fees due under 37 C.F.R. § 1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account No. 50-0573. This paragraph is intended to be a **CONSTRUCTIVE PETITION FOR EXTENSION OF TIME** in accordance with 37 C.F.R. § 1.136(a)(3).

Respectfully submitted,

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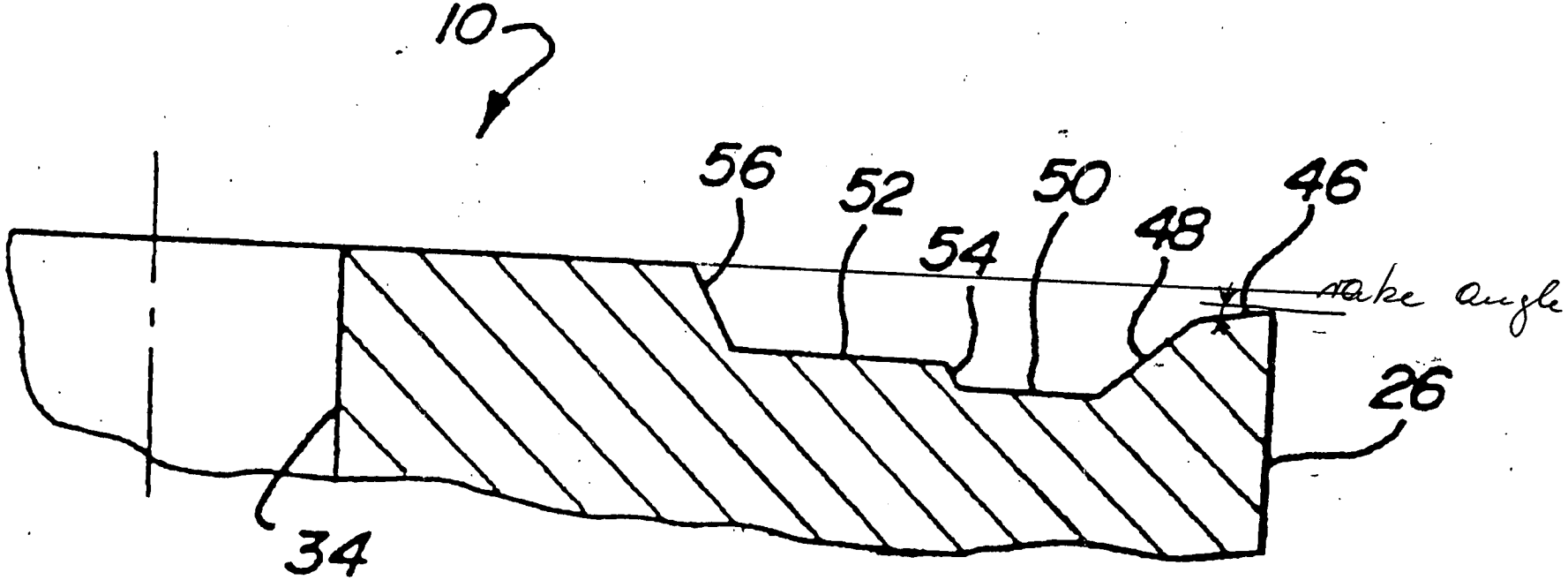
Fig-1



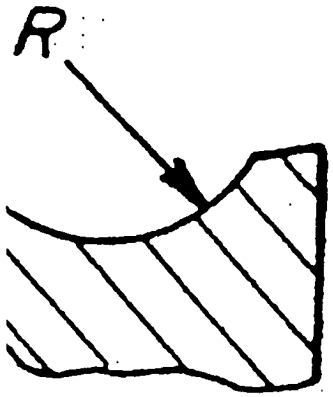


Fig-4